

Axial Aluminum Electrolytic Capacitor – JAB

FEATURES

- 85°C, 2000 hours assured
- Voltage range of 6.3 ~ 450V
- Wide operating temperature range, from -40°C ~ +85°C

SPECIFICATIONS

Operating Temperature Range (°C) -40°C ~ +85°C
 Capacitance Tolerance (20°C, 120Hz) ±10% (K), ±20% (M)
 Voltage Range 6.3 ~ 160VDC, 160 ~ 450VDC

| | | | | | | | | | | | | | | | |
|----------------------|------|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| (20°C) Surge Voltage | W. V | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 |
| | S. V | 8 | 13 | 20 | 32 | 44 | 63 | 79 | 125 | 200 | 250 | 300 | 400 | 450 | 500 |

(20°C) Leakage Current 6.3 ~ 160VDC
 $I \leq 0.03CV$ or 3 (u A) Whichever is greater (after 2 minutes applying the rated DC working Voltage at 20 °C)
 160 ~ 450VDC
 $I \leq 0.04CV + 15$ (u A) for $CV \leq 1000$, $I \leq 0.03CV + 25$ (u A) for $CV > 1000$ (after 5 minutes applying the rated DC working Voltage at 20 °C)

Where: I=Leakage Current (u A), C=rated Capacitance (μ F), V= working Voltage (V)

| | | | | | | | | | | | | | | | |
|----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| (at 20°C, 120Hz) | W. V | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 |
| Dissipation Factor (tan δ) | tanδ | 0.23 | 0.20 | 0.17 | 0.15 | 0.12 | 0.10 | 0.09 | 0.08 | 0.15 | 0.15 | 0.20 | 0.20 | 0.24 | 0.24 |

Add 0.02 per 1000μ F for more than 1000μF.

Low Temperature Stability

Impedance ratio at 120Hz.

| | | | | | | | | | | | | | | | |
|---------------------|----------|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|----|
| Rated Voltage □ (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 | |
| Z(-25°C) / +20°C | φ D < 16 | 6 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 6 | 8 | 12 | 14 | 16 |
| | φ D ≥ 16 | 8 | 6 | 4 | 4 | 3 | 3 | 3 | 3 | | | | | | |
| Z(-40°C) / +20°C | φ D < 16 | 10 | 8 | 6 | 6 | 4 | 3 | 3 | 3 | 4 | 8 | 10 | - | - | - |
| | φ D ≥ 16 | 18 | 16 | 12 | 10 | 8 | 8 | 6 | 6 | | | | | | |

Load Life Test After 2000 hours application of rated voltage at 85°C, capacitors meet the characteristics requirements listed at right

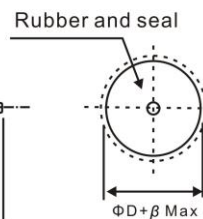
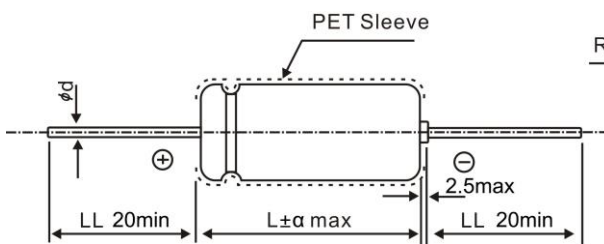
| | |
|--------------------|-----------------------------------|
| Capacitance Charge | Within ±20% of initial value |
| Dissipation Factor | Less than 200% of specified value |
| Leakage Current | Within specified value |

Shelf Life Test After leaving capacitors under no load at 85 °C for 1,000 hours and applying Voltage they meet the specified value for load life characteristics listed above.

| | | | | | | |
|---|---------------|------|------|------|------|--------|
| Frequency Coefficient of Allowable Ripple Current | Freq.(Hz) | 60 | 120 | 500 | 1K | 10K up |
| | Cap.(μ F) | | | | | |
| | Under 100 | 0.70 | 1.00 | 1.30 | 1.40 | 1.50 |
| | 100 to 1000 | 0.75 | 1.00 | 1.20 | 1.30 | 1.35 |
| | 1000 up above | 0.80 | 1.00 | 1.10 | 1.12 | 1.15 |

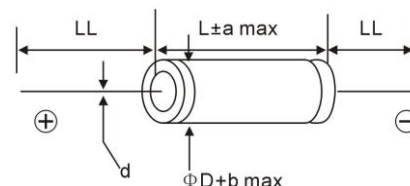
| | | | | |
|---|-----------------|----------|------|------|
| Allowable Ripple Current Vs Ambient Temperature | Temperature(°C) | Under 50 | 70 | 85 |
| | Multiplier | 1.78 | 1.40 | 1.00 |

DIMENSIONS (mm)



Lead Diameter

| | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ∅D | 5 | 6.3 | 8 | 10 | 13 | 16 | 18 | 22 | 25 |
| ∅d | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 0.8 |
| α | 1.5 | 1.5 | 1.5 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| β | 0.5 | 0.5 | 0.5 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |



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DIMENSIONS: Diameter (DØ) x Length (L) mm

RIPPLE CURRENT. mA at 85°C, 120Hz

| V.DC | 6.3V | | 10V | | 16V | | 25V | | 35V | |
|-------|--------|------|--------|------|--------|------|--------|------|--------|------|
| µF | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA |
| 10 | -- | -- | -- | -- | -- | -- | 5x12 | 40 | 5x12 | 55 |
| 22 | -- | -- | -- | -- | 5x12 | 71 | 6.3x13 | 76 | 6.3x13 | 70 |
| 33 | -- | -- | -- | -- | 5x12 | 85 | 6.3x13 | 80 | 6.3x13 | 115 |
| 47 | 5x12 | 87 | 5x12 | 94 | 6.3x13 | 88 | 6.3x13 | 100 | 6.3x13 | 138 |
| 100 | 6.3x13 | 121 | 6.3x13 | 145 | 6.3x13 | 160 | 8x13 | 215 | 8x16 | 232 |
| 220 | 6.3x13 | 215 | 8x13 | 231 | 8x13 | 298 | 8x16 | 319 | 10x17 | 401 |
| 330 | 8x16 | 305 | 8x16 | 327 | 8x16 | 365 | 10x17 | 454 | 10x21 | 514 |
| 470 | 8x16 | 364 | 8x16 | 390 | 8x16 | 460 | 10x21 | 524 | 10x21 | 613 |
| 1000 | 10x17 | 662 | 10x17 | 671 | 10x21 | 775 | 13x22 | 873 | 13x27 | 955 |
| 2200 | 13x22 | 929 | 13x22 | 1051 | 13x27 | 1125 | 16x28 | 1344 | 16x33 | 1421 |
| 3300 | 13x27 | 1150 | 13x27 | 1288 | 16x28 | 1454 | 16x33 | 1611 | 18x40 | 1640 |
| 4700 | 13x27 | 1354 | 16x28 | 1552 | 16x33 | 1650 | 18x40 | 1881 | 18x40 | 2280 |
| 6800 | 16x28 | 1762 | 16x33 | 1930 | 16x40 | 2040 | 18x40 | 2170 | 22x40 | 2470 |
| 10000 | 16x40 | 2062 | 18x40 | 2122 | 18x40 | 2503 | 22x40 | 2893 | 25x41 | 3180 |

| V.DC | 50V | | 63V | | 100V | | 160V | | 200V | |
|------|--------|------|--------|------|--------|------|--------|-----|--------|-----|
| µF | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA |
| 1 | 5x12 | 10 | 5x12 | 15 | 5x12 | 15 | 6.3x13 | 7 | 6.3x13 | 9 |
| 2.2 | 5x12 | 20 | 5x12 | 30 | 5x12 | 30 | 6.3x13 | 15 | 8x13 | 16 |
| 3.3 | 5x12 | 30 | 5x12 | 36 | 5x12 | 40 | 8x16 | 21 | 8x16 | 26 |
| 4.7 | 5x12 | 42 | 5x12 | 44 | 6.3x13 | 41 | 8x16 | 31 | 10x17 | 33 |
| 10 | 5x12 | 50 | 6.3x13 | 55 | 6.3x13 | 72 | 10x17 | 60 | 10x21 | 66 |
| 22 | 6.3x13 | 85 | 6.3x13 | 109 | 8x16 | 133 | 10x21 | 121 | 13x22 | 121 |
| 33 | 6.3x13 | 126 | 8x13 | 154 | 10x17 | 190 | 13x22 | 154 | 13x27 | 167 |
| 47 | 8x13 | 174 | 8x16 | 214 | 10x21 | 237 | 13x27 | 198 | 16x33 | 214 |
| 100 | 10x17 | 296 | 10x17 | 326 | 13x22 | 377 | 16x33 | 345 | 16x33 | 368 |
| 220 | 10x21 | 459 | 13x22 | 527 | 16x28 | 625 | 18x40 | 586 | 22x40 | 609 |
| 330 | 13x22 | 613 | 13x22 | 675 | 16x33 | 793 | 22x40 | 632 | -- | -- |
| 470 | 13x22 | 731 | 13x27 | 780 | 16x36 | 942 | -- | -- | -- | -- |
| 1000 | 16x33 | 1111 | 16x40 | 1249 | 22x40 | 1452 | -- | -- | -- | -- |
| 2200 | 18x40 | 1699 | 22x40 | 1744 | 25x43 | 2430 | -- | -- | -- | -- |
| 3300 | 22x40 | 2027 | 25x43 | 2309 | -- | -- | -- | -- | -- | -- |
| 4700 | 25x41 | 2347 | 25x43 | 2710 | -- | -- | -- | -- | -- | -- |
| 6800 | 25x52 | 2650 | -- | -- | -- | -- | -- | -- | -- | -- |

| V.DC | 250V | | 350V | | 400V | | 450V | |
|------|--------|-----|-------|-----|-------|-----|-------|-----|
| µF | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA |
| 1 | 6.3x13 | 12 | 8x16 | 13 | 8x16 | 14 | 8x16 | 15 |
| 2.2 | 8x16 | 17 | 10x17 | 19 | 10x17 | 21 | 10x21 | 23 |
| 3.3 | 10x17 | 31 | 10x17 | 33 | 10x17 | 34 | 10x21 | 36 |
| 4.7 | 10x17 | 38 | 10x21 | 44 | 10x21 | 45 | 13x22 | 46 |
| 10 | 10x21 | 72 | 13x22 | 72 | 13x22 | 80 | 13x27 | 82 |
| 22 | 13x27 | 126 | 13x27 | 132 | 16x33 | 137 | 16x36 | 143 |
| 33 | 16x28 | 178 | 16x33 | 186 | 16x40 | 192 | 16x40 | 201 |
| 47 | 16x33 | 241 | 16x40 | 253 | 16x40 | 339 | 18x40 | 339 |
| 100 | 16x40 | 391 | 22x40 | 402 | 22x43 | 424 | 22x43 | 448 |
| 220 | 22x40 | 632 | -- | -- | -- | -- | -- | -- |

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